

# Marine fishes from the Seychelles: 108 new records

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The following 108 species of fishes are recorded for the first time from the Seychelles: *Himantura granulata*, *Gymnothorax brendeni*, *G. chilospilus*, *G. fimbriatus*, *G. melatremus*, *G. nudivomer*, *G. zonipectis*, *Rhinomuraena quaesita*, *Uropterygius macrocephalus*, *Kaupichthys diodontus*, *Synodus binotatus*, *S. jaculum*, *Trachinocephalus myops*, *Ophidion smithi*, *Carapus mourlani*, *Brosmophyciops pautzkei*, *Antennarius hispidus*, *Myripristis berndti*, *M. melanosticta*, *Eurypegasus draconis*, *Cosmocampus banneri*, *Dunckerocampus dactyliophorus*, *Hippocampus histrix*, *H. whitei*, *Inimicus filamentosus*, *Cephalopholis sexmaculata*, *Pseudanthias cooperi*, *P. pulcherrimus*, *Variola albimarginata*, *Cyprinocirrhites polyactis*, *Oxycirrhites typus*, *Apogon evermanni*, *Apogon punctatus*, *Fowleria abocellata*, *Pseudamia tarri*, *Siphamia mossambica*, *Caranx lugubris*, *Lutjanus bengalensis*, *Pterocaesio marri*, *Parupeneus jansenii*, *P. pleurostigma*, *Parapriacanthus ransonneti*, *Pempheris schwenkii*, *Platax orbicularis*, *Centropyge acanthops*, *Chromis analis*, *C. atripectoralis*, *C. lepidolepis*, *C. xutha*, *Teixeirichthys jordani*, *Anampses lineatus*, *Cheilinus bimaculatus*, *Cirrhitilabrus exquisitus*, *Halichoeres cosmetus*, *H. trispilus*, *Hologymnosus annulatus*, *Labropsis xanthonota*, *Macropharyngodon bipartitus*, *Paracheilinus micoskeri*, *Pseudocoris heteroptera*, *Pseudojuloides argyreogaster*, *P. erythrops*, *Thalassoma genivittatum*, *T. quinquevittatum*, *Uranoscopas archionema*, *Limnichthys nitidus*, *Trichonotus marleyi*, *Parapercis schauinslandii*, *Cirripectes auritus*, *Enneapterygius abeli*, *Callionymus persicus*, *Synchiropus stellatus*, *Amblygobius tekomaji*, *Asterropteryx spinosus*, *Bathygobius cocosensis*, *B. crassiceps*, *Bryaninops natans*, *Callogobius sclateri*, *Ctenogobiops maculosus*, *Eviota guttata*, *E. sebreei*, *Feia nympha*, *Heteroleotris tentaculatus*, *Istigobius decoratus*, *Kelloggella quindecimfasciata*, *Lubricogobius pumilis*, *Paragobiodon modestus*, *P. xanthosoma*, *Pleuroscyba boldinghi*, *P. plicata*, *Stonogobiops nematodes*, *Trimma haima*, *T. sheppardi*, *Valenciennea helsdingenii*, *V. puellaris*, *V. wardii*, *Nemateleotris magnifica*, *Acanthurus auranticavus*, *Ctenochaetus binotatus*, *Bothus mancus*, *Samariscus triocellatus*, *Pseudobalistes fuscus*, *Paramonacanthus nematophorus*, *Canthigaster smithae*, *C. tyleri*, *Torquigener flavimaculosus*, *Diodon liturosus*, and *Masturus lanceolatus*.

## Introduction

The Seychelles consist of 92 granitic and coralline islands in the Indian Ocean which lie between 3°45' and 10°20' south latitude and 46°10' and 56°10' east longitude. They include high islands in the north, of which the largest and the most populous is Mahé, the atolls and low islands of the Amirantes, Cosmoledo Group, Farquhar Group, and the Aldabra Islands. France ruled the islands from 1743 until 1810 when the British occupied them. Specimens of fishes from the Seychelles during French occupation went to Paris where they were studied principally by Cuvier & Valenciennes, and some were described by them among the 22 volumes of their *Historie Naturelle des Poissons* (1828-1849).

The first attempt to make a list of the fishes known from the Seychelles was that of Playfair (1867) who recorded 211 species. Möbius (1880) and Möbius & Peters (1883) listed fishes from both Mauritius and the Seychelles. Regan (1908) reported on

collections of fishes made by Stanley Gardiner at islands of the western Indian Ocean; 54 species were from the Seychelles.

As noted by Smith & Smith (1963), only about 300 species of fishes were recorded from the Seychelles up to 1954. In this year J.L.B. and Margaret M. Smith first visited the northern islands to collect fishes. They worked at "almost all the islands, especially Mahé, Praslin, La Digue, Silhouette, and others more remote such as Bird, Denis and lesser islands." They wrote, "By various specialised means we caught and examined many tens of thousands of fishes, and within a comparatively short time we had not only confirmed the presence of most species previously recorded, but found more than as many more, some new to science and many rarities." Many of their new species and new records of fishes were published in the *Ichthyological Bulletins of the Department of Ichthyology of Rhodes University, Grahamstown, South Africa* in the decade of 1956-1966. After the death of J.L.B. Smith in 1968 (M.M. Smith, 1969), the series became *Ichthyological Bulletins of the J.L.B. Smith Institute of Ichthyology*.

In November 1954 the Smiths chartered a small fishing vessel and visited Alphonse, Poivre, Providence, St Pierre, Astove, Assumption, Cosmoledo, and Aldabra. Their heaviest collecting took place at Aldabra (9°30'S, 46°15'E). In the three days spent there, Smith (1955) reported "intensive collecting of fishes by every possible means, including explosives, poison, nets, spears, and lines, by which means we obtained at least ten thousand specimens of numerous species..." Most of these species were recorded in a series of eight publications in *Annals and Magazine of Natural History* (1955-1957) entitled, *The fishes of Aldabra. - Parts I-VIII*. A few families of fishes were not included, such as the eel families, the Callionymidae, the Ostraciidae, and the Tetraodontidae.

Arnoult et al. (1958) reported on a collection of 126 species of fishes from Aldabra. Curiously, they did not cite any of the papers by Smith (1955-1957) on Aldabra fishes. On the other hand, Smith & Smith (1963, 1969) failed to include the following Aldabra records of Arnoult et al.: *Antennarius coccineus* (Cuvier, 1831), *Malacanthus brevirostris* Guichenot, 1858 (as *M. hoedti* Bleeker, 1859), and *Opistognathus nigromarginatus* Rüppell, 1830.

In 1963 Smith & Smith published their well-illustrated *Fishes of Seychelles*, followed in 1969 by a second edition. Only one or two lines of text are devoted to each species (except five fishes which were described as new and were given two or three lines); however, their illustrations generally provide for positive identification. In the second edition they recorded 775 species from the Seychelles proper (i.e. northern islands) and another 105 species for which an asterisk "indicates that while the species is known from neighbouring seas it has not yet been found at Seychelles proper, though it is likely to occur there." Most of the records from Aldabra and other southern atolls and islets of the Seychelles that were not collected in the northern islands are among those designated by an asterisk. Some species included in Smith's five papers on Aldabra fishes that were not listed in *Fishes of Seychelles* with an asterisk (but should have been) are: *Carcharhinus limbatus* (Valenciennes, 1841), *Trachyrhamphus bicoarctatus* (Bleeker, 1857), *Scorpaenodes hirsutus* (Smith, 1957), *S. parvipinnis* (Garrett, 1863), *Belonoperca chabanaudi* Fowler & Bean, 1930, *Caranx sexfasciatus* Quoy & Gaimard, 1825, *Dipterygonotus balteatus* (Valenciennes, 1830), *Ellochelon vaigiensis* (Quoy & Gaimard, 1825), *Labroides bicolor* Fowler & Bean, 1928, *Stethojulis interrupta*

(Bleeker, 1851), *Wetmorella albofasciata* Schultz & Marshall, 1954, and *Remorina albescens* (Temminck & Schlegel, 1854).

The following species, not from Aldabra or other southern islands of the Seychelles, but listed with an asterisk (hence believed by the Smiths as apt to occur in the Seychelles) are, in the authors' opinion, not likely to be found there: *Apogon multitaeniatus* Cuvier, 1828, *A. nigripes* Playfair & Günther, 1867, *Archamia mozambiquensis* Smith, 1861, *Plectrohinchus gaterinus* (Forsskål, 1775), *Chromis dasypenys* Fowler, 1935, *Omobranchus mekranensis* (non Regan) Smith, 1959 [= *O. fasciolatus* (Valenciennes, 1836)], *Antennablennius (Litanchus) velifer* Smith, 1959 [= *A. variopunctatus* (Jatzow & Lenz, 1898)], *Meiacanthus mossambicus* Smith, 1959, *Coccotropsis gymnoderma* (Gilchrist, 1906), *Coccotropsis monacanthus* (Gilchrist, 1906), *Ptarmus gallus* (non Kossman & Räuber) Smith, 1958 [= *P. jubatus* (Smith, 1935)], *Choridactylus multibarbus* Richardson, 1848, *C. natalensis* (Gilchrist, 1902), *Minous superciliatus* (Gilchrist & Thompson, 1908) (= *M. coccineus* Alcock, 1890), and *Gymnothorax laysanus* (Steindachner, 1900) [= *G. eurostus* (Abbott, 1860)].

The 775 species of northern Seychelles fishes recorded by Smith & Smith (1969) include pelagic and deep-water fishes as well as reef and littoral species. The Smiths did remarkably well in fish collecting for inshore fishes when considering that they did not use SCUBA gear.

Since 1969 many groups of Indo-Pacific fishes have been revised. As a result, we know that there are numerous misidentifications in the list of Smith & Smith (1963, 1969). There are also some duplications of names due to their not knowing that males and females of some fishes have very different colour phases, and some juveniles may be strikingly different in colour from adults. Sexual dichromatism is particularly common among the wrasses (Labridae) and the parrotfishes (Scaridae). Smith & Smith, for example, listed 35 species of scarid fishes for the Seychelles, whereas there are at most 20 species in the islands (18 were observed by the authors). Some of the publications since 1969 include fishes from the Seychelles not previously recorded from the islands. An updated checklist of all Seychelles fishes from Bird Island to Aldabra is needed. This would require a lengthy visit to the J.L.B. Smith Institute of Ichthyology in Grahamstown to examine many of Smiths' specimens.

From 11 December 1992 to 9 January 1993 the authors participated in a Dutch marine biological expedition to the Seychelles, most of this time aboard the R/V 'Tyro'. The expedition leader was J. van der Land of the Nationaal Natuurhistorisch Museum in Leiden. Collections of fishes were made at the following islands: Mahé, Praslin, Aride, Bird, La Digue, St Joseph, D'Arros, Poivre, Desnoeufs, Alphonse, St François, and Platte. Photographs were taken of selected fishes soon after removal from the sea, and numerous underwater photographs were also taken. We were ably assisted in our field work by David P. Boullé and Edwin Grandcourt of the Seychelles Fishing Authority. Our collections and underwater photographs were made largely while diving with SCUBA gear, using the ichthyocide rotenone, the anaesthetic quinaldine, hand nets, plastic bags, spears, and powerhead blast. In addition, many valuable fishes were obtained by dredging and trawling from the vessel, mainly in the depth range of 40-60 m. A 1.2 m Agassiz trawl was most often used, but a few hauls were made with 2.4 and 3.5 m Agassiz trawls. Some specimens were caught by hook and line, one gobiid fish was taken with a van Veen grab, and a few fish specimens were caught by other expedition members: J.C. den Hartog, B.W. Hoeksema, and E.G.G. Coppejans.

A total of 391 lots of fishes were collected for the Nationaal Natuurhistorisch Museum (RMNH) in Leiden and 150 lots for the Bernice P. Bishop Museum (BPBM) in Honolulu. Specimens of three species of small gobies of the genus *Trimma* and of *Lubricogobius pumilus* Larson & Hoesche were given to Richard Winterbottom of the Royal Ontario Museum, Toronto (ROM), and specimens of two species of tripterygiid fishes of the genus *Enneapterygius* were sent to Wouter Holleman of the Albany Museum in Grahamstown, South Africa who reports that they represent undescribed species. In addition, we have specimens of species in the following genera of fishes which appear to be undescribed: *Gymnothorax*, *Dinematicthys*, *Festucalex*, *Hippocampus*, *Scorpaenodes*, *Scorpaenopsis*, *Sorsogona*, *Apogon*, *Parupeneus*, *Upeneus*, *Cheilinus*, *Paracheilinus*, *Coryphopterus* (formerly *Fusigobius*), *Gobiodon*, *Synchiropus*, *Bothus*, and *Aseraggodes*.

A preliminary report on the fish collections obtained is given in the cruise report by van Egmond & Randall (1994).

Surprisingly, 100 new records of fishes were obtained for the Seychelles during the Dutch expedition and from collections made by the senior author, Helen A. Randall, and David J. Woodland in 1977. Eight additional new records are the result of largely unreported collections made by James E. Böhlke, James C. Tyler, Richard H. Rosenblatt, and Walter A. Starck II in the Seychelles from 23 January-26 March, 1964 during the International Indian Ocean Expedition. Many of their specimens were lost in shipment to the United States. The surviving material is deposited in the Academy of Natural Sciences of Philadelphia (ANSP).

Orts (1993) prepared a field guide with keys to epinepheline, lutjanid, and lethrinid species of fishes of the Seychelles. He reported the following fishes for the first time from the islands: *Epinephelus octofasciatus* Griffin, 1926, *E. poecilonotus* (Temminck & Schlegel, 1842), *Variola albimarginata* Baissac, 1952 (specimen from our collection), *Etelis radiosus* Anderson, 1981, *Paracaeus sordidus* Abe & Shinohara, 1962 (also collected by us), *Pristipomoides auricilla* (Jordan, Evermann and Tanaka, 1927), *P. multidens* (Day, 1870), *P. typus* Bleeker, 1872, and *Gymnocranius elongatus* Senta, 1973. He has kindly allowed us to report herein the new record of the ocean sunfish *Masturus lanceolatus* (Liénard, 1840) from his photograph.

The purpose of the present paper is to document the new records of Seychelles fishes. The order of presentation of these species largely follows that of Nelson (1984). Lengths of most specimens are recorded as standard length (SL); for a few fishes such as eels, total length (TL) is used. Lengths given for the fishes of the underwater photographs represent estimates of the total length.

### Dasyatidae (Stingrays)

#### *Himantura granulata* (Macleay, 1883)

*Trygon granulata* Macleay, 1883: 598 (type locality; New Guinea).

Material.— RMNH 32141, 2: disk width 325-332 mm, TL 825-876 mm, St Joseph, west side, reef flat, 20 cm, spear, sta. 758, 27.xii.1992.

Remarks.— Also videotaped at St Joseph by Willem W. Kolvoort.

### **Muraenidae (Moray Eels)**

#### *Gymnothorax breedeni* McCosker & Randall, 1977 (fig. 1)

*Gymnothorax breedeni* McCosker & Randall, 1977: 162, figs. 1, 2, 3A (type locality; Grande Comore, Archipel des Comores)

Material.— RMNH 32270, 540 mm TL, Bird Island, sea side, reef, 6 m, spear, sta. 723, 22.xii.1992; RMNH 32271, 535 mm TL, Alphonse, outer reef, cave, 10 m, rotenone, sta. 789, 4.i.1993.

#### *Gymnothorax chilospilus* Bleeker, 1865

*Gymnothorax chilospilus* Bleeker, 1865: 52 (type localities; Sumatra, Ambon, Seram, and Buro).

Material.— RMNH 32275, 2: 200-216 mm TL, Alphonse, reef and seagrass, rotenone, 1-1.5 m, sta. 788, 4.i.1993. These specimens were lost in shipment from Leiden to the Bishop Museum, Honolulu.

#### *Gymnothorax fimbriatus* (Bennett, 1831)

*Muraena fimbriata* Bennett, 1831: 168 (type locality; Mauritius).

Material.— ANSP 126297, 130 mm TL, Mahé, North West Bay, about one-fourth mile north of Hotel de Seychelles, 0-1 m, 23.i.1964.

#### *Gymnothorax melatremus* Schultz, 1953 (fig. 2)

*Gymnothorax melatremus* Schultz in Schultz & collaborators, 1953: 121, fig. 25 (type locality; Bikini Atoll, Marshall Islands).

Material.— RMNH 32278, 105 mm TL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii.1992.

#### *Gymnothorax nudivomer* (Playfair & Günther, 1867) (fig. 3)

*Muraena nudivomer* Playfair & Günther, 1867: 127, pl. 18 (type locality; Zanzibar).

Material.— RMNH 32279, 455 mm TL, Bird Island, sea side, cave, 26.5 m, spear, sta. 723, 22.xii.1992.

#### *Gymnothorax zonipectis* Seale, 1906

*Gymnothorax zonipectis* Seale, 1906: 7, fig. 1 (type locality; Tahiti).

Material.— ANSP 122148, 150 mm TL, d'Arros, east side, 0-1 m, 10.iii.1964; ANSP 131218, 22: 140-383 mm TL, St Joseph, southwest of Ressource Island, 10.iii.1964; ANSP 131221, 121 mm TL, Mahé, Beauvallon Bay, northwest end, isolated coral outcrop on sand, 6-7.5 m, 15.iii.1964.

*Rhinomuraena quaesita* Garman, 1888  
 (fig. 4)

*Rhinomuraena quaesita* Garman, 1888: 1 (type locality; Ebon Island, Marshall Islands).

Remarks.— The underwater photograph of fig. 4 was taken at Mahé.

*Uropterygius macrocephalus* (Bleeker, 1865)  
 (fig. 5)

*Gymnomuraena macrocephalus* Bleeker, 1865: 54 (type locality; Ambon, Indonesia).

Material.— BPBM 35596, 320 mm TL, Alphonse, southwest side, outside reef, cave, 10 m, rotenone, sta. 789, 4.i.1993.

**Chlopsidae (False Morays)**

*Kaupichthys diodontus* Schultz, 1943

*Kaupichthys diodontus* Schultz, 1943: 50, pl. 6, fig. 5 i (type locality; Tau Island, American Samoa).

Material.— BPBM 35499, 3: 80-125 mm TL, Bird Island, sea side, cave, 26.5 m, rotenone, sta. 723, 22.xii.1992; BPBM 35608, 145 mm TL, Alphonse, southwest side, reef and seagrass, 1-1.5 m, rotenone, sta. 788, 4.i.1993.

Remarks.— Recent authors have regarded *K. hypoprorooides* (Strömmann), described from the Atlantic, as a circumtropical species; however, Kenneth A. Tighe, who is revising the Chlopsidae, will recognize the Indo-Pacific *K. diodontus* Schultz as distinct from *K. hypoprorooides*.

**Synodontidae (Lizardfishes)**

*Synodus binotatus* Schultz, 1953  
 (fig. 6)

*Synodus binotatus* Schultz in Schultz & collaborators, 1953: 35, fig. 8 (type locality; Kwajalein Atoll, Marshall Islands).

Material.— BPBM 35533, 130 mm SL, Mahé, off Victoria, sand and rubble, 8 m, spear, sta. 749, 25.xii.1992.

*Synodus jaculum* Russell & Cressey, 1979  
 (fig. 7)

*Synodus jaculum* Russell & Cressey, 1979: 1679 (type locality; Great Barrier Reef).

Material.— RMNH 32408, 62 mm SL, St Joseph, south side, rubble and sand, 5.5 m, quinaldine, sta. 759, 28.xii.1992; RMNH 32415, 92 mm SL, St François, north side, outer reef slope, rubble, 21 m, spear, sta. 792, 5.i.1993.

Remarks.— Cressey (1981) revised *Synodus*.

***Trachinocephalus myops* (Forster, 1801)**

*Salmo myops* Forster in Bloch & Schneider, 1801: 421 (type locality; St Helena).

Material.— RMNH 32416, 129 mm SL, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals, sponges, echinoderms and mollusks, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

**Ophidiidae (Cusk Eels)**

***Ophidion smithi* (Fowler, 1934)**  
(fig. 8)

*Otophoridium smithi* Fowler, 1934: 508, fig. 52 (type locality; Umgui, Natal).

Material.— BPBM 35554, 93 mm TL, north of Poivre, 5°44'S, 53°20'E, 43-48 m, coarse calcareous sand with rhodolites and a few corals and soft corals, dredge, sta. 766, 29.xii.1992.

Remarks.— Identified by C. Richard Robins who reports that the species ranges from the Gulf of Aqaba to South Africa; he also has examined material from Western Australia.

**Carapidae (Pearlfishes)**

***Carapus mourlani* (Petit, 1934)**  
(fig. 9)

*Fierasfer mourlani* Petit, 1934: 393 (type locality; Madagascar).

Material.— BPBM 35502, 68 mm TL, north of Bird Island, 3°42'S, 55°12'E, 55-63 m, Agassiz trawl, corals, sponges, antipatharians, and some calcareous algae, sta. 730, 22.xii.1992.

Remarks.— Markle & Olney (1990) revised the Carapidae. They reported that *C. mourlani* usually inhabits starfishes (particularly *Culcita novaeguineae* Müller & Troschel, 1842), but 19% of recorded specimens were from holothurians. Our specimen was free in the Agassiz trawl when landed, but a holothurian was lost as the net was coming aboard.

**Bythididae (Viviparous Brotulas)**

***Brosmophyciops pautzkei* Schultz, 1960**

*Brosmophyciops pautzkei* Schultz in Schultz & collaborators, 1960: 386, fig. 128 (type locality; Bikini Atoll, Marshall Islands).

Material.— RMNH 32099, 26 mm TL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii.1992.

Remarks.— This species produces copious mucus. The senior author tasted it and found it contains a powerful repelling substance.

### Antennariidae (Frogfishes)

*Antennarius hispidus* (Bloch & Schneider, 1801)  
(fig. 10)

*Lophius pictus* Bloch & Schneider, 1801: 142 (type locality; Coromandel, India).

Material.— BPBM 35552, 25 mm SL, south of D'Arros, 5°28'S, 53°18'E, sponges and mollusks, 52 m, Agassiz trawl, sta. 763, 28.xii.1992.

Remarks.— Theodore W. Pietsch identified this specimen for us. Pietsch & Grobecker (1987) monographed the Antennariidae.

### Holocentridae (Squirrelfishes)

*Myripristis berndti* Jordan & Evermann, 1903  
(fig. 11)

*Myripristis berndti* Jordan & Evermann, 1903: 170 (type locality; Honolulu).

Material.— RMNH 32174, 85-100 mm SL, Alphonse, southwest side, outside reef, small caves, 10 m, rotenone, sta. 789, 4.i.1993.

Remarks.— Greenfield (1974) revised the genus *Myripristis*, and Randall & Guézé (1981) reviewed the large-scaled species such as *M. berndti*.

*Myripristis melanosticta* Bleeker, 1863  
(fig. 12)

*Myripristis melanostictus* Bleeker, 1863: 237 (type locality; Ternate, Indonesia).

Remarks.— Smith & Smith (1963: 11, pl. 6 E) recorded this species from the Seychelles; however, their illustration is *M. adusta* Bleeker, 1853.

### Pegasidae (Seamoths)

*Eurypegasus draconis* (Linnaeus, 1766)  
(fig. 13)

*Pegasus draconis* Linnaeus, 1766: 418 (type locality; unknown).

Material.— BPBM 35581, 30 mm SL and RMNH 32292, 31 mm SL, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals and sponges, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

Remarks.— The Pegasidae was revised by Palsson & Pietsch (1989).

### **Syngnathidae (Pipefishes and Sea Horses)**

*Cosmocampus banneri* (Herald & Randall, 1972)  
(fig. 14)

*Syngnathus banneri* Herald & Randall, 1972: 135, fig. 4 (type locality; Ishigaki, Ryukyu Islands).

Material.— BPBM 35571: 2: 38-42 mm SL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii.1992.

*Dunckerocampus dactyliophorus* (Bleeker, 1853)  
(fig. 15)

*Syngnathus dactyliophorus* Bleeker, 1853: 506 (type locality; Onrust Island, Jakarta).

Material.— RMNH 32400, 109 mm SL, Bird Island, sea side, cave, 26.5 m, rotenone, sta. 723, 22.xii.1992.

Remarks.— Dawson (1985) regarded *Dunckerocampus* Whitley as a subgenus of *Doryrhamphus* Kaup; we prefer to recognize it as a genus.

*Hippocampus histrix* Kaup, 1853  
(fig. 16)

*Hippocampus histrix* Kaup, 1853: 229 (type locality; Japan).

Material.— BPBM 35488, 85 mm high, east of Bird Island, 3°45'S, 55°14'E, 45 m, *Halimeda*, seagrass remnants, and sponges, Agassiz trawl, sta. 720, 20.xii.1992.

*Hippocampus whitei* Bleeker, 1855  
(fig. 17)

*Hippocampus Whitei* Bleeker, 1855a: 17, 30 (type locality; New South Wales).

Material.— BPBM 35584, 3: 45-60 mm high, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals and sponges, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

Remarks.— The genus *Hippocampus* is in great need of revision.

### **Scorpaenidae (Scorpionfishes)**

*Inimicus filamentosus* (Cuvier, 1829)  
(fig. 18)

*Pelor filamentosum* Cuvier 1829: 428, pl. 94 (type locality; Mauritius).

Material.— RMNH 32352, 128 mm SL, northwest of Bird Island, 3°42'S, 55°13'E, 40-50 m, dead seagrass and *Pinna* fragments, dredge, sta. 731, 22.xii.1992.

Remarks.— Eschmeyer et al. (1979) revised the scorpionfish subfamily Choridactylinae, of which *Inimicus* is the largest genus.

### Serranidae (Groupers and Sea Basses)

*Cephalopholis sexmaculata* (Rüppell, 1830)  
(fig. 19)

*Serranus sexmaculatus* Rüppell, 1830: 107 (type locality; Red Sea).

Material.— RMNH 32371, 222 mm SL, St Joseph, west side, cave, 7 m, spear, sta. 756, 27.xii.1992.

Remarks.— Randall and Heemstra (1991) reviewed the Indo-Pacific species of groupers (Epinephelinae).

*Pseudanthias cooperi* (Regan, 1908)  
(fig. 20)

*Anthias cooperi* Regan, 1908: 222, pl. 24, fig. 4 (type locality; Haddumati, Maldives).

Material.— RMNH 32386, 3: 30-57 mm, Bird Island, sea side, cave, 26.5 m, rotenone, sta. 723, 22.xii.1992.

*Pseudanthias pulcherrimus* Heemstra & Randall, 1986

*Pseudanthias pulcherrimus* Heemstra & Randall in Smith & Heemstra, 1986: 512, pl. 33, figs. 166.8 A, B  
(type locality; Mauritius).

Material.— RMNH 32389, 28: 19-49 mm SL, Bird Island, sea side, cave, 26.5 m, rotenone, sta. 723, 22.xii.1992.

*Variola albimarginata* Baissac, 1952  
(fig. 21)

*Variola albimarginata* Baissac, 1952: 214 (type locality; Mauritius).

Material.— RMNH 32395: 268 mm SL, St Joseph, anchorage, 25 m, hook and line, 27.xii.1993.

Remarks.— A more complete description of this species was given by Baissac (1956).

### Cirrhitidae (Hawkfishes)

*Cyprinocirrhites polyactis* (Bleeker, 1875)

*Cirrhitichthys polyactis* Bleeker, 1875: 16 (type locality; Amboin, Indonesia).

Material.— BPBM 35480, 55 mm SL, east of Bird Island, 3°45'S, 55°14'E, 45 m, *Halimeda*, seagrass remnants, and sponges, Agassiz trawl, sta. 720, 20.xii.1992; BPBM 35550, 43 mm SL, south of D'Arros, coral, soft coral, and sponges, 50-55 m, Agassiz trawl, sta. 764, 28.xii.1992.

Remarks.— In his review of the Cirrhitidae, Randall (1963) recorded this species from Indonesia, Philippines, Japan, Queensland, and Madagascar.

*Oxycirrhitess* *typus* Bleeker, 1857  
(fig. 22)

*Oxycirrhitess* *typus* Bleeker, 1857: 40 (type locality; Amboin, Indonesia).

Material.— RMNH 32133, 75 mm SL, St Joseph, south of D'Arros, 5°29'S, 53°18'E, coral, soft coral, and sponges, 50-55 m, Agassiz trawl, sta. 764, 28.xii.1992.

**Apogonidae (Cardinalfishes)**

*Apogon evermanni* Jordan & Snyder, 1904

*Apogon evermanni* Jordan & Snyder, 1904: 123 (type locality; Honolulu).

Material.— RMNH 31797, 9: 32-63 mm SL, Bird Island, sea side, cave, 26.5 m, rotenone, sta. 723, 22.xii.1992.

*Apogon punctatus* Regan, 1908  
(fig. 23)

*Apogon punctatus* Regan, 1908: 227, pl. 24, fig. 1 (type locality; Cargados Carajos).

Material.— BPBM 35475, 48 mm SL, northeast of Aride, 4°10'S, 55°44'E, muddy sand with soft corals and hydroids, 55 m, Agassiz trawl, sta. 714, 19.xii.1992.

Remarks.— This appears to be the first record of this species since the original description in 1908. Regan had four type specimens, maximum length 85 mm, which were collected in 20-30 fathoms (37-55 m).

*Fowleria abocellata* Goren & Karplus, 1980  
(fig. 24)

*Fowleria abocellata* Goren & Karplus, 1980: 232, pl. 1, fig. 1 (type locality; Eilat, Gulf of Aqaba).

Material.— RMNH 31826, 26 mm SL, Poivre, south side, reef, 10 m, plastic bag, sta. 780, 1.i.1993.

*Pseudamia tarri* Randall, Lachner & Fraser, 1985  
(fig. 25)

*Pseudamia tarri* Randall, Lachner & Fraser, 1985: 15, pl. I C (type locality; Jana Island, Persian Gulf).

Material.— BPBM 35494, 3: 49-62 mm SL, Bird Island, sea side, cave, 29.5 m, rotenone, sta. 723, 22.xii.1992.

*Siphamia mossambica* Smith, 1955

*Siphamia mossambica* Smith, 1955a: 63, pl. 1 (type locality; Bazaruto, Mozambique).

Material.— BPBM 35465, 19 mm SL, Aride, south side, among *Diadema* spines, 12 m, quinaldine, sta. 711, 18.xii.1992.

### Carangidae (Jacks)

#### *Caranx lugubris* Poey, 1880

*Caranx lugubris* Poey, 1880: 222 (type locality; Cuba).

Remarks.— Photographed underwater at Alphonse, but photograph not satisfactory; also recorded on videotape underwater at St François by Willem W. Kolvoort.

### Lutjanidae (Snappers)

#### *Lutjanus bengalensis* (Bloch, 1790) (fig. 26)

*Holocentrus bengalensis* Bloch, 1790: 102, pl. 246, fig. 2 (type locality; Bengal).

Material.— RMNH 32240, 108 mm SL, north of Desnoeufs, 6°8'S, 53°2'E, soft bottom with sponges, soft corals, and seagrass roots, Agassiz trawl, sta. 782, 2.i.1993.

Remarks.— Allen & Talbot (1985) reviewed the snappers of the genus *Lutjanus*.

### Caesionidae (Fusiliers)

#### *Pterocaesio marri* Schultz, 1953 (fig. 27)

*Pterocaesio marri* Schultz in Schultz & collaborators, 1953: 545, fig. 45 (type locality; Bikini Atoll, Marshall Islands).

Remarks.— This fusilier was common in small schools at various islands; it was very common at Aride.

### Mullidae (Goatfishes)

#### *Parupeneus jansenii* (Bleeker, 1856) (fig. 28)

*Upeneus Jansenii* Bleeker, 1856: 44 (type locality; Manado, Sulawesi).

Material.— BPBM 35553, 3: 71-84 mm SL, north of Poivre, 5°44'S, 53°20'E, coarse calcareous sand with rhodolites and a few corals and soft corals, 43-48 m, dredge, sta. 766, 29.xii.1992.

#### *Parupeneus pleurostigma* (Bennett, 1831) (fig. 29)

*Upeneus pleurostigma* Bennett, 1831: 59 (type locality; Mauritius).

Material.— RMNH 32262, 184 mm SL, St Joseph, sand and rubble near reef, 20 m, spear, sta. 753, 26.xii.1992.

### **Pempherididae (Sweepers)**

*Parapriacanthus ransonneti* Steindachner, 1870  
(fig. 30)

*Parapriacanthus Ransonneti* Steindachner, 1870: 623, pl. 1, figs. 1, 2 (type locality; Nagasaki, Japan).

Material.— BPBM 35551, 1: 52 mm SL, south of D'Arros, 5°29'S, 53°18'E, coral, soft coral, and sponges, 50-55 m, sta. 764, 28.xii.1992.

*Pempheris schwenkii* Bleeker, 1855  
(fig. 31)

*Pempheris Schwenkii* Bleeker, 1855b: 314 (type locality; Batu Islands, Indonesia).

Material.— BPBM 21599, 10: 65-123 mm SL, La Digue, North Point, rocky shore, cave, 0-1 m, rotenone, 1.vi.1977.

### **Ephippidae (Spadefishes)**

*Platax orbicularis* (Forsskål, 1775)  
(fig. 32)

*Chaetodon orbicularis* Forsskal, 1775: 59 (type locality; Jeddah, Red Sea)

Remarks.— The underwater photograph of fig. 32 was taken at the atoll of Desnoeufs (sta. 783, 2.i.1993). A remora (*Echeneis naucrates* Linnaeus, 1758) is attached to the back of the spadefish.

### **Pomacanthidae (Angelfishes)**

*Centropyge acanthops* (Norman, 1922)  
(fig. 33)

*Holocanthus acanthops* Norman, 1922: 318 (type locality; Durban, Natal).

Material.— RMNH 32303, 44 mm SL, St Joseph, west side, reef, 20m, quinaldine, sta. 753, 26.xii.1992.

### **Pomacentridae (Damselfishes)**

*Chromis analis* (Cuvier, 1830)  
(fig. 34)

*Heliaes analis* Cuvier in Cuvier & Valenciennes, 1830: 496 (type locality; Amboin, Indonesia).

Remarks.— The underwater photograph of fig. 34 was taken in 34 m at Alphonse Atoll.

*Chromis atripectoralis* Welander & Schultz, 1951  
 (fig. 35)

*Chromis atripectoralis* Welander & Schultz, 1951: 107, fig. 1 (type locality; Bikini Atoll, Marshall Islands).

Material.— ANSP 111252, 16: 60.5-81 mm SL, D'Arros, northwest end, 0-3 m, 9.iii.1964; RMNH 32315, 1: Poivre, sta. 767, 29/31.xii.1992.

*Chromis lepidolepis* Bleeker, 1876  
 (fig. 36)

*Chromis lepidolepis* Bleeker, 1876: 389 (type locality; Timor, Indonesia).

Material.— BPBM 21686, 58 mm SL, Mahé, North Islet, south side, 16 m, 10.vi.1977.

*Chromis xutha* Randall, 1988  
 (fig. 37)

*Chromis xutha* Randall, 1988: 54, figs. 5, 6 (type locality; North Malé Atoll, Maldives Islands).

Remarks.— The underwater photograph of fig. 37 was taken at the atoll of St François (sta. 792, 5/6.i.1993).

*Teixeirichthys jordani* (Rutter, 1897)

*Pomacentrus jordani* Rutter, 1897: 77 (type locality; Swatow, China).

Material.— BPBM 35582, 3: 71-72 mm SL and RMNH 32331, 12: 54-87 mm SL, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals and sponges, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

**Labridae (Wrasses)**

*Anampsese lineatus* Randall, 1972  
 (fig. 38)

*Anampsese melanurus lineatus* Randall, 1972: 172, fig. 7 (type locality; Eilat, Gulf of Aqaba).

Material.— BPBM 21623, 98 mm SL, Cocos (Albatross), 20 m, spear, 4.vi.1977; RMNH 32184, 82 mm SL, Alphonse, southwest side, outside reef, small caves, 10 m, sta. 789, 4.i.1993.

*Cheilinus bimaculatus* Valenciennes, 1840

*Cheilinus bimaculatus* Valenciennes in Cuvier & Valenciennes, 1840: 96 (type locality; Honolulu).

Material.— BPBM 35613, 53 mm SL, St François, rubble, 28 m, powerhead, sta. 792, 6.i.1993; RMNH 32189, La Digue, sta. 733, 23.xii.1992; RMNH 32190, Poivre, sta. 778, 1.i.1993.

*Cirrhilabrus exquisitus* Smith, 1957  
(fig. 39)

*Cirrhilabrus exquisitus* Smith, 1957b: 109, fig. 4, pl. 2 E (type locality; Pinda, Mozambique).

Material.— RMNH 32197, 58 mm SL, Aride, south side, 12 m, spear, sta. 711, 18.xii.1992.

*Halichoeres cosmetus* Randall & Smith, 1982  
(fig. 40)

*Halichoeres cosmetus* Randall & Smith, 1982: 15, pls. 6 C, 7 A, 7 B (type locality; North Malé Atoll, Maldives Islands).

Material.— RMNH 32202, 93 mm SL, St Joseph, west side, 12 m, spear, sta. 753, 26.xii.1992.

*Halichoeres trispilus* Randall & Smith, 1982  
(fig. 41)

*Halichoeres trispilus* Randall & Smith, 1982: 18, pl. 8 A, 8 B (type locality; North Malé Atoll, Maldives Islands).

Remarks.— The underwater photograph of fig. 41 was taken at Alphonse Atoll; the other fish in the field are *Apogon apogonides* (Bleeker, 1856).

*Hologymnosus annulatus* (Lacepède, 1801)  
(fig. 42)

*Labrus annulatus* Lacepède, 1801: 455, 526, pl. 28, fig. 3 (type locality; "le grand Océan équatorial").

Remarks.— The underwater photograph of fig. 42 was taken at St Joseph Atoll (sta. 796).

*Labropsis xanthonota* Randall, 1981  
(fig. 43)

*Labropsis xanthonota* Randall, 1981: 138, pl. 2 A-C (type locality; Tutuila, American Samoa).

Material.— RMNH 32216, 87 mm SL, Poivre, north side, reef, 13-14 m, spear, sta. 767, 29.xii.1992.

*Macropharyngodon bipartitus* Smith, 1957  
(fig. 44)

*Macropharyngodon bipartitus* Smith, 1957: 104, fig. 2, pl. 2 B (type locality; Pinda, Mozambique).

Material.— BPBM 21628, 57 mm SL, Cocos Island (Albatross), reef, 15 m, spear, 4.vi.1977; RMNH 32217, 29 mm SL, Aride, south side, reef, 12 m, spear, sta. 711, 18.xii.1992.

Remarks.— The specimens and photograph are the juvenile-female form of the species. It was named *M. varialvus* by Smith (1957), and placed in the synonymy of *M. bipartitus* by Randall (1978).

*Paracheilinus mccoskeri* Randall & Lubbock, 1981  
(fig. 45)

*Paracheilinus mccoskeri* Randall & Lubbock, 1981: 23, pl. I C (type locality; Grand Comore, Archipel des Comores).

Material.— BPBM 35614, 60 mm SL, St François, rubble, 28 m, powerhead, sta. 792, 6.i.1993.

*Pseudocoris heteroptera* (Bleeker, 1857)

*Julis (Halichoeres) heteropterus* Bleeker, 1857: 78 (type locality; Ambon, Indonesia).

Material.— BPBM 35544, 2: 50-53 mm SL, St Joseph, south side, reef, 13-15 m, spear, sta. 759, 28.xii.1992; BPBM 35565, 125 mm SL, Poivre, north side, reef, 13 m, sta. 767, 31.xii.1992.

*Pseudojuloides argyreogaster* (Playfair & Günther, 1867)  
(fig. 46)

*Pseudojulis argyreogaster* Playfair & Günther, 1867: 95, pl. 12, fig. 2 (type locality; Zanzibar).

Material.— BPBM 35620, 32 mm SL, Platte, north end, seagrass [*Thalassodendron ciliatum* (Forsskål, 1775)], 6 m, spear, sta. 796, 7.i.1993.

Remarks.— This small specimen was green, the abdomen and throat bluish white, with three rows of red dots on the upper half of body, and a pale blue stripe under the eye.

*Pseudojuloides erythrops* Randall & Randall, 1981  
(fig. 47)

*Pseudojuloides erythrops* Randall & Randall, 1981: 71, figs. 13, 14 (type locality; Mauritius).

Material.— BPBM 35615, 57 mm SL, St François, north side, outer reef slope, rubble, 28 m, powerhead, sta. 792, 6.i.1993.

*Thalassoma genivittatum* (Valenciennes, 1839)

*Julis genivittatus* Valenciennes in Cuvier & Valenciennes, 1839: 416 (type locality; Mauritius).

Material.— BPBM 35468, 165 mm SL, Aride, south side, rocky shore, 2 m, spear, sta. 711, 18.xii.1992.

Remarks.— This wrasse is common in Mauritius, but rare in the Seychelles.

*Thalassoma quinquevittatum* (Lay & Bennett, 1839)

*Scarus? quinque-vittatus* Lay & Bennett, 1839: 66, pl. 19, fig. 3 (type locality; Ryukyu Islands).

Material.— ANSP 107744, 99 mm SL, Curieuse Island, southeast end, point forming south end of Laraie Bay, 7.5 m, rotenone, 24.ii.1964.

Remarks.— We observed this species along the exposed rocky shore of Aride

(sta. 711, 18/19.xii.1992) but failed to collect any specimens or obtain any photographs. The single Seychelles specimen in the Academy of Natural Sciences of Philadelphia provides a positive record.

### **Uranoscopidae (Stargazers)**

#### *Uranoscopas archionema* Regan, 1921

*Uranoscopas archionema* Regan, 1921: 416 (type locality; off Umvoti River, Natal).

Material.— ANSP 106797, 213 mm SL, Mahé, Beauvallon Bay (4°37'S, 55°26'E), sand close to coral, from fisherman, 1960.

### **Creediidae (Sandburrowers)**

#### *Limnichthys nitidus* Smith, 1958

*Limnichthys nitidus* Smith, 1958b: 247, fig. 1 (type locality; Pinda Mozambique).

Material.— ANSP 151600, 2: 14.5-15 mm SL, D'Arros, east side, sand and coral rubble, 29-34 m, 9.iii.1964; ANSP 151601, 3: 13-15 mm SL, Mahé, Beauvallon Bay, 4°37'S, 55°25'E, sand with large and small coral heads, 6-8 m, 15.iii.1964.

### **Trichonotidae (Sand Divers)**

#### *Trichonotus marleyi* (Smith, 1936) (fig. 48)

*Taeniolabrus marleyi* Smith, 1936: 4, pl. 1 (type locality; Durban, South Africa).

Material.— ANSP 151602, 27 mm SL, Mahé, Beauvallon Bay, NNW of Hotel des Seychelles, 4°37'S, 55°26'E, sand near isolated patch of rock, coral, and sponges, 12-15 m, 19.iii.1964.

Remarks.— This single juvenile specimen is identified as *Trichonotus marleyi* largely by the counts of the fin rays and lateral-line scales. Only the adult male has been described and illustrated; similarity of the color of the female of Fig. 49 is the basis for its identification as *marleyi*. A definitive record of the species for the Seychelles should be based on an adult male specimen.

### **Pinguipedidae (Sandperches)**

#### *Parapercis schauinslandii* (Steindachner, 1901) (fig. 49)

*Percis schauinslandii* Steindachner, 1901: 175 (type locality; Honolulu).

Material.— BPBM 35610, 5: 44-92 mm SL, Alphonse, lagoon near channel, rubble and sand, 7 m, spear, sta. 788, 4.i.1993.

### Blenniidae (Blennies)

*Cirripectes auritus* Carlson, 1981  
(fig. 50)

*Cirripectes auritus* Carlson, 1981: 408, figs. 1, 2, 3 C [type locality; Fanning Island (= Tabuaeran), Line Islands].

Remarks.— The underwater photograph of fig. 50 was taken at Alphonse Atoll.

### Tripterygiidae (Triplefins)

*Enneapterygius abeli* Klausewitz, 1960.

*Tripterygion abeli* Klausewitz, 1960: 11 (type locality; Al Ghardaqa = El Hurghada, Red Sea).

Material.— BPBM 35572, 2: 18-19 mm, Poivre, north side, 13 m, rotenone, sta. 767, 31.xii.1992.

Remarks.— A third specimen collected with BPBM 35572 was given to Wouter Holleman of the Albany Museum, Grahamstown, South Africa who provided the identification.

### Callionymidae (Dragonettes)

*Callionymus persicus* Regan, 1906  
(figs. 51, 52)

*Callionymus persicus* Regan, 1906: 325, pl. 3, fig. 1 (type localities; Persian Gulf; Muscat, Oman; and Mekran coast of Pakistan).

Material.— BPBM 35501, 63 mm SL, northwest of Bird Island, 3°42'S, 55°12'E, 55-63 m, corals, sponges, antipatharians, and some calcareous algae, Agassiz trawl, sta. 730, 22.xii.1992; BPBM 35505, 2: 48-59 mm SL, north of Bird Island, 3°42'S, 55°13'E, dredge, 40-50 m, sta. 731, 23.xii.1992.

*Synchiropus stellatus* Smith, 1963  
(fig. 53)

*Synchiropus stellatus* Smith, 1963: 559, pl. 85 A, B (type localities; Pinda and Ibo, Mozambique).

Material.— BPBM 35556, 23 mm SL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii.1992.

### Gobiidae (Gobies)

*Amblygobius tekomaji* Smith, 1959

*Seychellea tekomaji* Smith, 1959: 204, fig. 21 (type locality; Tekomaji Island, Mozambique).

Material.— ANSP 168357, 11: 29-38 mm SL, between Mahé and Anonyme Island, 4°39'S, 55°31'E, 11.ii.1964.

Remarks.— Pectoral-ray counts of these specimens varied from 16-20, hence the combined ranges given by Smith (1959) for the type specimens and by Winterbottom and Emery (1989) for material from Chagos Archipelago. The Seychelles specimens lack predorsal scales as described by Smith, but Winterbottom and Emery pointed out that these are not found in small specimens.

*Asterropteryx spinosus* (Goren, 1981)

*Opolopomus spinosus* Goren, 1981: 96, fig. 2 (type locality; Ile Maitre New Caledonia).

Material.— ANSP 161975, 2: 26-32 mm, between Mahé and Anonyme Island, 4°39'S, 55°31'E, 11.ii.1964.

*Bathygobius cocosensis* (Bleeker, 1854)  
(fig. 54)

*Gobius cocosensis* Bleeker, 1854: 47 (type locality; Cocos-Keeling Islands).

Material.— BPBM 35472, 4: 24-31 mm SL, Aride, rock pool at shore, 0-0.2 m, rotenone, sta. 711, 18.xii.1992; BPBM 35546, 22 mm SL, St Joseph, reef flat, 0-0.1 m, rotenone, sta. 760, 28.xii.1992; BPBM 35588, 39 mm SL, Desnoeufs, tidepool at low tide, 0-0.2 m, rotenone, sta. 784, 2.i.1993.

*Bathygobius crassiceps* (Jordan & Seale, 1906)  
(fig. 55)

*Mapo crassiceps* Jordan & Seale, 1906: 403, fig. 92 (type locality; Apia, Western Samoa).

Material.— BPBM 21588, 5: 40-53 mm SL, La Digue, North Point, rocky shore, 0-1 m, rotenone, 1.vi.1977.

*Bryaninops natans* Larson, 1985  
(fig. 56)

*Bryaninops natans* Larson, 1985: 77, figs. 10-12 (type locality; Lizard Island, Great Barrier Reef).

Remarks.— The underwater photograph of fig. 56 was taken at Beauvallon Bay, Mahé.

*Callogobius sclateri* (Steindachner, 1880)

*Eleotris sclateri* Steindachner, 1880: 157 (type locality; Society Islands).

Material.— BPBM 35521, 3: 24-36 mm SL, Mahé, southeast side, tidepool at low tide, 0-0.3 m, rotenone, sta. 740, 24.xii.1992.

Remarks.— An out-of-focus color photograph of the 24-mm specimen is on file at the Bishop Museum.

*Ctenogobiops maculosus* (Fourmanoir, 1955)  
(fig. 57)

*Cryptocentroides maculosus* Fourmanoir in Roux-Estève & Fourmanoir, 1955: 201 (type locality; Red Sea).

Remarks.— The underwater photograph of fig. 57 was taken in the lagoon of Alphonse Atoll in 4 m (sta. 788, 4.i.1993). It lives symbiotically with an alpheid shrimp (shown in the photo)

*Eviota guttata* Lachner & Karnella, 1978

*Eviota guttata* Lachner & Karnella, 1978: 9, fig. 5 (type locality; Massaua, Red Sea).

Material.— BPBM 35466, 17 mm SL, Aride, south side, reef, 12 m, quinaldine, sta. 711, 18.xii.1992.

*Eviota sebreei* Jordan & Seale, 1906  
(fig. 58)

*Eviota sebreei* Jordan & Seale, 1906: 390, fig. 80 (type locality; Apia, Western Samoa).

Material.— BPBM 35508, 12 mm SL, La Digue, reef, 10 m, quinaldine, sta. 737, 23.xii.1992.

*Feia nympha* Smith, 1959

*Feia nympha* Smith, 1959: 206, fig. 24 (type locality; Pinda, Mozambique).

Material.— ANSP 134777, 13.5 mm SL, between Mahé and Anonyme Island, 4°39'S, 55°31'E, 11.ii.1964.

*Heteroleotris tentaculatus* Smith, 1958  
(fig. 59)

*Dactyleotris tentaculatus* Smith, 1958a: 161, fig. 17 (type locality; Bazaruto, Mozambique).

Material.— BPBM 35534, 2: 15-24 mm SL, east of Mahé, 4°37'S, 55°33'E, coral bottom, 19 m, dredge, sta. 744, 25.xii.1992.

*Istigobius decoratus* (Herre, 1927)  
(fig. 60)

*Rhinogobius decoratus* Herre, 1927: 181, pl. 13, fig. 3 (type locality; Cabalian, Leyte, Philippines).

Remarks.— The underwater photograph of fig. 60 was taken at St Joseph Atoll. Murdy (1985) revised the gobiid genus *Istigobius*.

*Kelloggella quindecimfasciata* (Fowler)

*Agunia quindecimfasciata* Fowler, 1946: 207, fig. 69 (type locality; Aguni Shima, Ryukyu Islands).

Material.— BPBM 35547, 16 mm SL, St Joseph, reef flat, 0-0.1 m, rotenone, sta. 760, 28.xii.1992.

Remarks.—Hoese (1975) revised the genus *Kelloggella*. He described *K. centralis* from the Cook Islands and Marshall Islands, and Sawada (1977) recorded it from the Ryukyu Islands. Winterbottom and Emery (1986) placed *K. centralis* in the synonymy of *K. quindecimfasciata* and extended the range to the Chagos Archipelago.

*Lubricogobius pumilis* Larson & Hoese, 1980

*Lubricogobius pumilis* Larson & Hoese, 1980: 41, fig. 536 (type locality; off Somalia, 3°25'N, 47°14.8'E).

Material.—BPBM 35515, 13 mm SL and ROM 66149, 2: 17-19 mm SL, southwest of La Digue, 4°23'S, 55°49'E, 30 m, corals and sponges, dredge, sta. 734, 23.xii.1992.

Remarks.—Uniformly orange in life.

*Paragobiodon modestus* (Regan, 1908)

*Gobiopterus modestus* Regan: 1908: 242 (type localities; Egmont and Salomon, Chagos Archipelago).

Material.—BPBM 35509, 13 mm SL, La Digue, coral reef, 10 m, quinaldine, sta. 737, 23.xii.93.

Remarks.—We follow Winterbottom & Emery (1986) in the use of the name *Paragobiodon modestus* for this species. As they explained, D.F. Hoese discovered that there are three species of this genus among the syntypes of *P. modestus*. Stabilization of the name is waiting for lectotype designation by Hoese.

*Paragobiodon xanthosomus* (Bleeker, 1852)

*Gobius xanthosomus* Bleeker, 1852: 703 (type locality; Seram).

Material.—ANSP 161936, 12 mm SL, Mahé, North Islet, west side, 7.5-18 m, 14.iii.1964; ANSP 161942, 9.5 mm SL, Mahé, north of Anonyme Island, inner edge of reef, 0-1.5 m, 4.ii.1964.

*Pleurosicya boldinghi* Weber, 1913  
(fig. 61)

*Pleurosicya Boldinghi* Weber, 1913: 456 (type locality; West New Guinea).

Material.—BPBM 35481, 2: 26.5-27 mm SL, east of Bird Island, 3°45'S, 55°14'E, 45 m, *Halimeda*, sea-grass remnants, and sponges, Agassiz trawl, sta. 720, 20.xii.1992.

*Pleurosicya plicata* Larson, 1990

*Pleurosicya plicata* Larson, 1990: 41, figs. 25, 26 (type locality; Salomon Atoll, Chagos Archipelago).

Material.—BPBM 35538, 22 mm SL, north of St Joseph, 5°23'S, 53°19'E, 60 m, sandy bottom with rhodolites, shells, and soft corals, Agassiz trawl, sta. 755, 26.xii.1992; BPBM 35563, 16 mm SL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii, 1992.

*Stonogobiops nematodes* Hoese & Randall, 1982

*Stonogobiops nematodes* Hoese & Randall, 1982: 13, fig. 4, pl. 3 B, C (type locality; Dumaguete City, Negros, Philippines).

Material.— BPBM 35489, 2: 20-29 mm SL, east of Bird Island, 3°44'S, 55°14'E, 40 m, fine calcareous sand with shell fragments, calcareous algae, and polychaetes, Van Veen grab, sta. 718, 20.xii.1992.

Remarks.— Known previously only from the Philippines and Bali (the latter locality by Kuiter, 1992).

*Trimma haima* Winterbottom, 1984

*Trimma haima* Winterbottom, 1984: 702, fig. 17 (type locality; Salomon Atoll, Chagos Archipelago).

Material.— ROM 66147, 3: 13.6-16.8 mm SL, Bird Island, caves in drop-off, 26.5 m, rotenone, sta. 723, 22.xii.1992.

Remarks.— Identified by Richard Winterbottom. Previously recorded only from the Chagos Archipelago; however, Winterbottom (pers. comm.) has examined specimens from Aldabra, Mauritius, and St Brandon's Shoals (Cargados Carajos).

*Trimma sheppardi* Winterbottom, 1984

*Trimma sheppardi* Winterbottom, 1984: 709, figs. 6, 24 (type locality; Salomon Atoll, Chagos Archipelago).

Material.— ROM 66148, 4: 17.0-18.6 mm SL, Bird Island, caves in drop-off, 26.5 m, rotenone, sta. 723, 22.xii.1992.

Remarks.— Identified by Richard Winterbottom who reports that *T. sheppardi* is otherwise known only from the Chagos Archipelago and Red Sea.

*Valenciennea helsdingenii* (Bleeker, 1858)

*Eleotriodes Helsdingenii* Bleeker, 1858: 212 (type locality; Goram Islands).

Material.— ANSP 110142, 121 mm SL, St Joseph, southwest of Ressource Island off small boat entrance to lagoon, rotenone, 15-28 m, 10.iii.1964; RMNH 32166, 2: 123-124 mm SL, Poivre, north side, rubble-sand slope, 13-14 m, quinaldine and spear, sta. 767, 29.xii.1992.

*Valenciennea puellaris* (Tomiyama, 1956)

*Eleotriodes puellaris* Tomiyama in Tomiyama and Abe, 1956: 1136, pl. 224, fig. 575 (type locality; Kira-gawa, Kochi Prefecture, Japan).

Material.— RMNH 32167, 45 mm SL, Mahé, SE coast near Pointe Cocos, 4°45'S, 55°32'E, 15 m, sta. 739, 24.xii.1992.

*Valenciennea wardii* (Playfair & Günther, 1867)

*Eleotris wardii* Playfair & Günther, 1867: 73, pl. 9, fig. 3 (type locality; Zanzibar).

Material.— RMNH 32169, 70 mm SL, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals and sponges, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

### Microdesmidae (Wormfishes and Dartfishes)

*Nemateleotris magnifica* Fowler, 1938  
(fig. 62)

*Nemateleotris magnifica* Fowler, 1938: 132 (type locality; Buka Buka Island, Gulf of Tomini, Sulawesi).

Material.— ANSP 161979, 50 mm SL, St Joseph, southwest of Ressource Island, off small boat entrance to lagoon, 12-15 m, 22.ii.1964; ANSP 161980, 28.5 mm SL, Praslin, south of Round Island, 15-28 m, 10.iii.1964.

Remarks.— Randall & Allen (1973) revised the genus *Nemateleotris*.

### Acanthuridae (Surgeonfishes)

*Acanthurus auranticavus* Randall, 1956

*Acanthurus auranticavus* Randall, 1956: 210, figs. 2 u, 19 (type locality; Atulayan Island, east of Luzon).

Material.— BPBM 21656, 195 mm SL, La Digue, off point north of main settlement, rock and sand, 8 m, spear, 6.vi.1977.

Remarks.— Color note when fresh: body with fine alternating lines of bluish and orangish brown; a slightly diagonal, bilobed, dark brown spot at upper end of gill opening; a yellowish white bar at caudal-fin base; dorsal and anal fins dark brown with three or four narrow, very dark brown bands in outer half, the dorsal with a narrow black band at base; a faint orangish brown bar on throat below eye and another broader one ventrally below pectoral-fin base; bluish area around caudal spine (yellowish when alive).

*Ctenochaetus binotatus* Randall, 1955  
(fig. 63)

*Ctenochaetus binotatus* Randall, 1955: 164, fig. 1 G (type locality; Pagapas Bay, Luzon).

Material.— BPBM 21666, 153 mm SL, Mahé, Beauvallon Bay, 11 m, spear, 9.vi.1977; RMNH 31750, 75 mm SL, St François, north side, outer reef slope, 20 m, spear, sta. 792, 6.i.1993.

### Bothidae (Lefteye Flounders)

*Bothus mancus* (Broussonet, 1782)  
(fig. 64)

*Pleuronectes Mancus* Broussonet, 1782: (no pagination), 2 pls. (not numbered) (type locality; Ulietea).

Remarks.— The underwater photograph of fig. 65 was taken at Desnoeufs Atoll (sta. 783, 2.i.1993).

### **Pleuronectidae (Righteye Flounders)**

#### *Samariscus triocellatus* Woods, 1966

*Samariscus triocellatus* Woods in Schultz & collaborators, 1966: 66, fig. 149 (type locality; Bikini Atoll, Marshall Islands).

Material.— RMNH 32301, 25 mm SL, Poivre, north side, reef, 13 m, rotenone, sta. 767, 31.xii.1992.

### **Balistidae (Triggerfishes)**

#### *Pseudobalistes fuscus* (Bloch & Schneider, 1801) (fig. 65)

*Balistes fuscus* Bloch & Schneider, 1801: 471 (after Lacepède, no locality).

Remarks.— The underwater photograph of fig. 65 was taken at Alphonse Atoll.

### **Monacanthidae (Filefishes)**

#### *Paramonacanthus nematophorus* (Günther, 1870) (fig. 66)

*Monacanthus nematophorus* Günther, 1870: 241 (type locality of China or Borneo questionable).

Material.— BPBM 35483, 62 mm SL, east of Bird Island, 3°45'S, 55°14'E, 45 m, *Halimeda*, seagrass remnants, and sponges, Agassiz trawl, sta. 720, 20.xii.1992.

Remarks.— J. Barry Hutchins (pers. comm.) believes the true type locality of this species is either the Red Sea or coast of East Africa.

### **Tetraodontidae (Puffers)**

#### *Canthigaster smithae* Allen & Randall, 1977 (fig. 67)

*Canthigaster smithae* Allen & Randall, 1977: 489, fig. 5 C (type locality; Mauritius).

Material.— RMNH 32421, 55 mm SL, Alphonse, reef, 14 m, spear, sta. 786, 3.i.1993.

#### *Canthigaster tyleri* Allen & Randall, 1977 (fig. 68)

*Canthigaster tyleri* Allen & Randall, 1977: 497, fig. 6 C (type locality; Mauritius).

Material.— BPBM 35599, 35 mm SL, Alphonse, southwest side, reef, small caves, 10 m, rotenone, sta. 789, 4.i.1993.

Remarks.— Previously known only from Mauritius, Comoros, and Maldives. Replaced in the western Pacific by the closely related *C. leoparda* Lubbock & Allen, 1979.

*Torquigener flavimaculosus* Hardy & Randall, 1983  
(fig. 69)

*Torquigener flavimaculosus* Hardy & Randall, 1983: 14, figs. 1, 2 (type locality; Nuweiba, Gulf of Aqaba).

Material.— BPBM 35587, 2: 55-65 mm SL, west of Poivre, 5°46'S, 53°11'E, soft bottom with soft corals and sponges, 57 m, Agassiz trawl, sta. 778, 1.i.1993.

Remarks.— Reported previously only from the Red Sea and Zanzibar.

**Diodontidae (Porcupinefishes)**

*Diodon liturosus* Shaw, 1804  
(fig. 70)

*Diodon Liturosus* Shaw, 1804: 436 (type locality; Indian seas).

Material.— RMNH 31742, 210 mm SL, Praslin, hand net, sta. 707, 17.xii.1992.

Remarks.— Also observed at Platte Island (sta. 796, 7/8.i.1993).

**Molidae (Ocean Sunfishes)**

*Masturus lanceolatus* (Liénard, 1840)  
(fig. 71)

*Orthagoriscus lanceolatus* Liénard, 1840: 291 (type locality; Mauritius).

Remarks.— The basis for this record is fig. 71; the photograph was provided by Stéphane Orts. The specimen was collected in the Seychelles in January, 1993.

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## References

Abe, T. & S. Shinohara, 1962. Description of a new lutianid fish from the Ryukyu Islands.— *Jpn. J. Ichthyol.* 9 (1-6): 163-171, pl. 1.

Allen, G.R. & J.E. Randall, 1977. Review of the sharpnose pufferfishes (subfamily Canthigasterinae) of the Indo-Pacific.— *Rec. Austral. Mus.* 30(17): 475-517.

Allen, G.R. & F.H. Talbot, 1985. Review of the snappers of the genus *Lutjanus* (Pisces: Lutjanidae) from the Indo-Pacific with the description of a new species.— *Indo-Pacific Fishes* (11): 1-87, pls. 1-10.

Arnoult, J., M.-L. Bauchot-Boutin & R. Roux-Estève, 1958. Les poissons de l'île Aldabra campagne océanographique de la *Calypso* (Mai-Juin 1954).— *Ann. Inst. Océan.* 34: 47-90.

Baissac, J. de B., 1952. Contribution à l'étude des poissons de l'île Maurice. V.— *Proc. Roy. Soc. Arts & Sci. Mauritius* 1 (3): 185-240.

Baissac, J. de B., 1956. Description d'un nouveau serranide de l'île Maurice.— *Proc. Roy. Soc. Arts & Sci. Mauritius* 1 (4): 395-396.

Bennett, E.T., 1831. Observations on a collection of fishes from the Mauritius, with characters of new genera and species.— *Proc. Zool. Soc. London*, 1831, pt. I: 32, 59-61, 126-128, 165-169.

Bleeker, P., 1852. Nieuwe bijdrage tot de kennis der ichthyologische fauna van Ceram.— *Nat. Tijdschr. Ned. Indië* 3: 689-714.

Bleeker, P., 1854. Bijdrage tot de kennis der ichthyologische fauna van de Kokos-eilanden.— *Nat. Tijdschr. Ned. Ind.* 7: 37-48.

Bleeker, P., 1855a. Over eenige visschen van van Diemensland.— *Verh. Akad. Amsterdam* 2: 1-30.

Bleeker, P., 1855b. Bijdrage tot de kennis der ichthyologische fauna van de Batoe-eilanden.— *Nat. Tijdschr. Ned Ind.* 8: 305-328.

Bleeker, P., 1856. Beschrijvingen van nieuwe en weinig bekende vischsoorten van Manado en Makassar grootendeels verzameld op eene reis naar den Molukschén Archipel in het gevolg van den Gouverneur-Generaal Duymaer van Twist.— *Act. Soc. Sc. Indo-Neerl.* 1: 1-76.

Bleeker, P., 1857. Achtste bijdrage tot de kennis der vischfauna van Amboina.— *Act. Soc. Sc. Indo-Neerl.* 2: 1-102.

Bleeker, P., 1858. Bijdrage tot de kennis der vischfauna van den Goram-Archipel.— *Nat. Tijdschr. Ned. Ind.* 15: 197-218.

Bleeker, P., 1865. Poissons inédits indo-archipelagiques de l'ordre des Murènes.— *Ned. Tijdschr. Dierk.* 2: 38-54.

Bleeker, P., 1875. Sur les espèces insulindiennes de la famille des Cirhitéoïdes.— *Verh. Akad. Amsterdam* 15: 1-20.

Bleeker, P., 1876. Description de quelques espèces inédites de Pomacentroïdes de l'Inde archipelagique.— *Versl. Akad. Amsterdam* (2) 10: 384-391.

Bloch, M.E., 1790. Naturgeschichte de ausländischen Fische, part 4: 1-128, 36 pls.— Berlin.

Bloch, M.E., & J.G. Schneider, 1801. *Systema Ichthyologiae iconibus cx illustratum: i-lx, 1-584, pls. 1-110.*— Berlin.

Broussonet, P.M.A., 1782. *Ichthyologia sistens piscium descriptiones et icones: i-iv, 1-41, 11 pls.*— London.

Carlson, B.A., 1981. A new Indo-Pacific fish of the genus *Cirripectes* (Blenniidae, Salariini).— *Pac. Sci.* (1980) 34 (4): 407-414.

Cressey, R., 1981. Revision of the Indo-West Pacific lizardfishes of the genus *Synodus* (Pisces: Synodontidae).— *Smithsonian contrib. zool.* (342): 1-53.

Cuvier, G.L.C.F.D., 1829. *Le règne animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée*, 2 ed., 2: i-xviii, 1-532.— Paris.

Cuvier, G. & A. Valenciennes, 1828-1849. *Histoire naturelle des poissons*.— Paris.

Dawson, C.E., 1985. Indo-Pacific pipefishes (Red Sea to the Americas): 1-230.— The Gulf Coast Research Laboratory, Ocean Springs, Mississippi.

Egmond, J. van & J.E. Randall, 1994. Report on the fish collections. In: J. van der Land (ed.), *Oceanic Reefs of the Seychelles. Netherlands Indian Ocean Programme, Cruise Reports*, vol. 2: 121-131. — Leiden.

Eschmeyer, W.N., K.V. Rama-Rao & L.E. Hallacher, 1979. Fishes of the scorpionfish subfamily Choridactylinae from the western Pacific and the Indian Ocean.— Proc. Calif. Acad. Sci., 4th ser., 41 (21): 475-500.

Forsskål, P., 1775. Descriptiones animalium avium, amphibiorum, piscium, insectorum, vermium; quae in itinere orientali: 22-75.— Copenhagen.

Fowler, H.W., 1934. Fishes obtained by Mr. H.W. Bell-Marley chiefly in Natal and Zululand in 1929 to 1932.— Proc. Acad. Nat. Sci. Phila. 86: 405-514.

Fowler, H.W., 1938. Descriptions of new fishes obtained by the United States Bureau of Fisheries steamer "Albatross", chiefly in Philippines seas and adjacent waters.— Proc. U.S. Natl. Mus. 85 (3032): 31-135.

Fowler, H.W., 1946. A collection of fishes obtained in the Riu Kiu Islands by Captain Ernest R. Tinkham A.U.S.— Proc. Acad. Nat. Sci. Phila. 98: 123-218.

Garman, S., 1888. An eel (*Rhinomuraena quaesita*) from the Marshall islands.— Bull. Essex Inst., 20: 1-3.

Goren, M., 1981. Three new species and three new records of gobies from New Caledonia.— Cybium, ser. 3, 5(3): 93-101, 5 figs.

Goren, M. & I. Karplus, 1980. *Fowleria abocellata*, a new cardinal fish from the Gulf of Elat, Red Sea (Pisces, Apogonidae).— Zool. Meded. 55 (20): 231-234, 1 pl.

Greenfield, D.W., 1974. A revision of the squirrelfish genus *Myripristis* Cuvier (Pisces: Holocentridae).— Nat. Hist. Mus. Los Angeles County, Sci. Bull. 19: 1-54.

Günther, A., 1870. Catalogue of the fishes in the British Museum, 8: i-xxv, 1-549.— British Museum, London.

Hardy, G.S. & J.E. Randall, 1983. Description of a new species of pufferfish (Tetraodontiformes: Tetraodontidae) from the Red Sea and adjacent waters.— Israel J. Zool. 32: 13-20.

Herre, A.W., 1927. Gobies of the Philippines and the China Sea.— Monogr. Bur. Sci. Manila, Philippine Is. 23: 1-352, 26 pls.

Herre, A.W.C.T., 1939. On a collection of fishes from Nanyo, the Japanese mandated islands.— Annot. Zool. Japon. 18 (4): 298-307.

Hoese, D.F., 1975. A revision of the gobiid fish genus *Kelloggella*.— Rec. Austral. Mus. 29 (17): 473-484, 3 pls.

Hoese, D.F. & J.E. Randall, 1982. Revision of the gobiid fish genus *Stonogobiops*.— Indo-Pacific Fishes (1): 1-18, 3 pls.

Jordan, D.S. & A. Seale, 1906. The fishes of Samoa.— Bull. Bur. Fisheries (1905) 25: 173-488, 53 pls.

Jordan, D.S. & J.O. Snyder, 1904. Description of a new species of fish (*Apogon evermanni*) from the Hawaiian Islands, with notes on other species.— Proc. U.S. Natl. Mus. 28 (1386): 123-126.

Kaup, J.J., 1853. Uebersicht der Lophobranchier.— Arch. Naturgesch. 19 (1): 226-234.

Klausewitz, W., 1960. Fische aus dem Roten Meer. III. *Tripterygion abeli* n. sp. (Pisces, Blennioidea, Clinidae).— Senckenberg. Biol. 41(1/2): 11-13.

Kuiter, R.H., 1992. Tropical reef-fishes of the western Pacific Indonesia and adjacent waters: i-xiii, 1-314.— Jakarta.

Lacepède, B.G.E., 1801. Histoire naturelle des poissons 3: i-lxvi, 1-558, pls. 1-34.— Paris.

Lachner, E.A. & S.J. Karnella, 1978. Fishes of the genus *Eviota* of the Red Sea with descriptions of three new species (Teleostei: Gobiidae).— Smithsonian Contrib. Zool. (286): 1-23.

Larson, H.K., 1985. A revision of the gobiid genus *Bryaninops* (Pisces), with a description of six new species.— The Beagle, Occ. Pap. N. Terr. Mus. Arts & Sci. 2 (1): 57-93.

Larson, H.K., 1990. A revision of the commensal gobiid fish genera *Pleurosicya* and *Luposicya* (Gobiidae), with descriptions of eight new species of *Pleurosicya* and discussion of related genera.— The Beagle, Rec. N. Terr. Mus. Arts & Sci. 7 (1): 1-53.

Larson, H.K. & D.F. Hoese, 1980. Fische des Indischen Ozeans. A. Systematical Section, XXIII, Gobiidae.— "Meteor" Forsch.— Ergebnisse, ser. D, (32): 33-43.

Lay, G.T. & E.T. Bennett, 1839. Fishes: 41-75, pls. 15-23. In: The zoology of Captain Beechey's voyage.— London.

Liénard, E., 1840. Description d'une nouvelle espèce de genre môle (*Orthagoriscus* Schn.) découverte à l'île Maurice.— Rev. Zool. 3: 291-292.

Markle, D.F. & J.E. Olney, 1990. Systematics of the pearlfishes (Pisces: Carapidae).— Bull. Mar. Sci. 47 (2): 269-410.

McCosker, J. E. & J. E. Randall, 1977. Three new species of Indo-Pacific moray eels (Pisces: Muraenidae).— Proc. Calif. Acad. Sci., 4th ser., 41 (3): 161-168.

Möbius, K.A., 1880. Beiträge zur Meeressfauna der Insel Mauritius und der Seychellen.— Berlin.

Möbius, K.A. & W. Peters, 1883. Liste des poissons collectionnés à Maurice et aux Seychelles.— Trans. Roy. Soc. Sci. Mauritius 11: 49-58.

Murdy, E.O. & D.F. Hoese, 1985. Revision of the gobiid fish genus *Istigobius*. Indo-Pacific Fishes (4): 1-41, 3 pls.

Nelson, J.S., 1984. Fishes of the world, 2nd edition: i-xv, 1-523.— John Wiley & Sons, New York.

Norman, J.R., 1922. Three new fishes from Zululand and Natal, collected by Dr. H. W. Bell Marley; with additions to the fish fauna of Natal.— Ann. Mag. Nat. Hist. London, ser. 9, 9: 318-322.

Orts, S., 1993. Field guide to Seychelles commercial fishes. Lutjanidae - Lethrinidae - Serranidae. Their range in the southwestern Indian Ocean: 1-171.— Seychelles Fishing Authority, Victoria, Seychelles.

Palsson, W.A. & T.W. Pietsch, 1989. Revision of the Acanthopterygian fish family Pegasidae (Order Gasterosteiformes).— Indo-Pacific Fishes (18): 1-38, 1 pl.

Petit, G., 1934. Un *Fierasfer* nouveau de Madagascar.— Bull. Mus. Hist. Nat. Paris 6 (4): 393-397.

Pietsch, T.W. & D.B. Grobecker, 1987. Frogfishes of the world: i-xxii, 1-420, pls. 1-56.— Stanford,

Playfair, R.L., 1867. The fishes of Seychelles.— Proc. Zool. Soc. London (1867): 846-872, 2 pls.

Playfair, R.L. & A.C.L.G. Günther, 1867. The fishes of Zanzibar: i-xiv, 1-153, pls. 1-21.— London.

Randall, J.E., 1955. A revision of the surgeon fish genus *Ctenochaetus*, family Acanthuridae, with descriptions of five new species.— Zoologica, Sci. Contrib. New York Zool. Soc. 40 (4): 149-165, 2 pls.

Randall, J.E., 1956. A revision of the surgeon fish genus *Acanthurus*.— Pac. Sci. 10 (2): 159-235, 2 pls.

Randall, J.E., 1963. Review of the hawkfishes (family Cirrhitidae).— Proc. U.S. Natl. Mus. 114 (3472): 389-451, 16 pls.

Randall, J.E., 1972. A revision of the labrid fish genus *Anampses*.— Micronesica 8 (1-2): 51-190, 3 pls.

Randall, J.E., 1981. Revision of the labrid fish genus *Labropsis* with descriptions of live new species.— Micronesica 17 (1-2): 125-155, 5 pls.

Randall, J.E., 1988. Three new damselfishes of the genus *Chromis* (Perciformes: Pomacentridae) from the Indian Ocean.— Revue fr. Aquariol. 15 (2): 49-56.

Randall, J.E. & G.R. Allen, 1973. A revision of the gobiid fish genus *Nemateleotris*, with descriptions of two new species.— Quart. J. Taiwan Mus. 26 (3&4): 347-367.

Randall, J.E. & M. Goren, 1993. A review of the goboid fishes of the Maldives.— Ichthyol. Bull. (58): 1-37, 5 pls.

Randall, J.E. & P. Guézé, 1981. The holocentrid fishes of the genus *Myripristis* of the Red Sea, with clarification of the *murdjan* and *hexagonus* complexes.— Nat. Hist. Mus. Los Angeles County, Contrib. in Sci. (334): 1-16.

Randall, J.E. & P.C. Heemstra, 1991. Revision of Indo-Pacific groupers (Perciformes: Serranidae: Epinephelidae), with descriptions of five new species.— Indo-Pacific Fishes (20): 1-332, 41 pls.

Randall, J.E. & R. Lubbock, 1981. Labrid fishes of the genus *Paracheilinus*, with descriptions of three new species from the Philippines.— Jpn. J. Ichthyol. 28 (1): 19-30, 2 pls.

Randall, J.E. & H.A. Randall, 1981. A revision of the labrid fish genus *Pseudojuloides*, with descriptions of five new species.— Pac. Sci. 35 (1): 51-74.

Randall, J.E. & M.M. Smith, 1982. A review of the labrid fishes of the genus *Halichoeres* of the western Indian Ocean, with descriptions of six new species.— Ichthyol. Bull. (45): 1-26, 8 pls.

Randall, J.E., E.A. Lachner & T.H. Fraser, 1985. A revision of the Indo-Pacific apogonid fish genus *Pseudamia*, with descriptions of three new species.— Indo-Pacific Fishes (6): 1-23, 1 pl.

Regan, C.T., 1905. On fishes from the Persian Gulf, the Sea of Oman, and Karachi, collected by Mr. F.W. Townsend.— J. Bombay Nat. Hist. Soc. 16 (2): 318-333, 3 pls.

Regan, C.T., 1907. Report on the marine fishes collected by Mr. J. Stanley Gardiner in the Indian Ocean.— Trans. Linn. Soc. London, 2nd ser., zool. 12: 217-255, 10 pls.

Regan, C.T., 1921. New fishes from deep water off the coast of Natal.— Ann. Mag. Nat. Hist., ser. 9, 7: 412-420.

Roux-Estéve, R. & P. Fourmanoir, 1955. Poissons capturés par la mission de la "Calypso" en Mer Rouge.— Ann. Inst. Océanogr. Monaco, N.S. 30: 195-203.

Rüppell, E., 1828-1830. Atlas zu der Reise im nördlichen Africa. Fische des rothn Meers: 1-141, pls. 1-35.— Frankfurt am Main.

Rutter, C.M., 1987. A collection of fishes obtained in Swatow, China, by Miss Adele M. Field.— Proc. Acad. Nat. Sci. Philad. 1897: 56-90.

Sawada, Y., 1977. First record of the gobiid fish, *Kelloggella centralis*, from Japan.— Bull. Natl. Sci. Mus., ser. A (Zool.) 3 (3): 193-197.

Schultz, L.P., 1943. Fishes of the Phoenix and Samoan Islands collected in 1939 during the expedition of the U. S. S. "Bushnell".— U.S. Natl. Mus. Bull. 180: i-viii, 1-316. 9 pls.

Schultz, L.P., et al., 1953. Fishes of the Marshall and Marianas Islands.— Natl. Mus. Bull. 202 (1): i-xxxii, 1-685, 74 pls.

Schultz, L.P., et al., 1960. Fishes of the Marshall and Marianas Islands.— U.S. Natl. Mus. Bull. 202 (2): i-ix, 1-438, 49 pls.

Schultz, L.P., et al., 1966. Fishes of the Marshall and Marianas Islands.— U.S. Natl. Mus. Bull. 202 (3): i-vii, 1-176, 25 pls.

Seale, A., 1906. Fishes of the South Pacific.— Occ. Pap. B.P. Bishop Mus., G., 1804. General zoology or systematic natural history. Pisces 5, pt 2: i-vi, 251-463, pls. 133-182., London.

Shaw, G. & F.P. Nodder, 1794. The Naturalist's miscellany, or coloured figures of natural objects, drawn and described from nature. 5: pls. 147-182.— London.

Smith, J.L.B., 1936. Two interesting new fishes from South Africa.— Trans. Roy. Soc. S. Afr. 24 (1): 1-6, 2 figs. 2 pls.

Smith, J.L.B., 1955. Siphamiine fishes from south and east Africa.— Ann. Mag. Nat. Hist., ser. 23, 8: 61-66, 1 pl.

Smith, J.L.B., 1955-1957. The fishes of Aldabra, parts I-VIII.— Ann. Mag. Nat. Hist., ser. 12.

Smith, J.L.B., 1957. List of the fishes of the family Labridae in the western Indian Ocean with new records and five new species.— Ichthyol. Bull. 7: 990-114, 2 pls.

Smith, J.L.B., 1958a. The fishes of the family Eleotridae in the western Indian Ocean.— Ichthyol. Bull. (11): 137-163, 3 pls.

Smith, J.L.B., 1958b. The genus *Limnichthys* Waite, 1904 in African seas.— Ann. Mag. Nat. Hist., ser. 13, 1: 247-249, 1 fig.

Smith, J.L.B., 1963. Fishes of the families Draconettidae and Callionymidae from the Red Sea and the western Indian Ocean.— Ichtyol. Bull. (28): 547-564, 4 pls.

Smith, J.L.B. & M.M. Smith, 1963. The fishes of Seychelles: 1-215, pls. 1-98.— Grahamstown.

Smith, M.M., 1969. J. L. B. Smith his life, work, bibliography and list of new species.— Dept. Ichthyol., Rhodes Univ., Occ. Pap. (16): 12 unnumbered pages, 185-215.

Smith, M.M. & P.C. Heemstra, 1986. Smith's sea fishes: i-xx, 1-1047, pls. 1-144.— Johannesburg.

Steindachner, F., 1870. Ichthyologische Notizen. X.— Sitzber. Akad. Wiss. Wien. 61 (1): 623-642, 5 pls.

Steindachner, F., 1880. Ichthyologische Beiträge. VIII.— Sitzber. Akad. Wiss. Wien 1879, 80, (1): 119-191, 3 pls.

Steindachner, F., 1901. Fische aus dem Stillen Ocean. Ergebnisse einer Reise nach dem Pacific (Schauinsland 1896-97).— Denkschr. Akad. Wiss. Wien 70: 483-521.

Tomiyama, I., 1956. 318. *Eleotris puellaris*, new species. In Tomiyama, I. & T. Abe, Figures and descriptions of the fishes of Japan (a continuation of Dr. Shigeho Tanaka's work) 55: 1136-1140, pl. 224, fig. 575.— Tokyo.

Weber, M., 1913. Die Fische der Siboga-Expedition: i-xii, 1-710, pls. 1-12.— Leiden.

Welander, A.D. & L.P. Schultz, 1951. *Chromis atripectoralis*, a new damselfish from the tropical Pacific, closely related to *C. caeruleus*, family Pomacentridae.— J. Wash. Acad. Sci. 41 (30): 107-110.

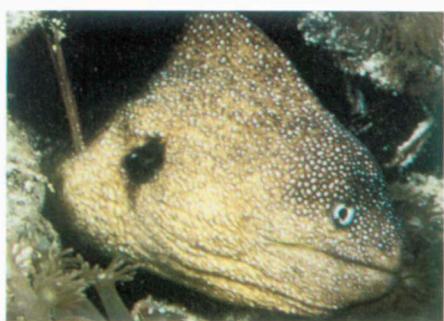
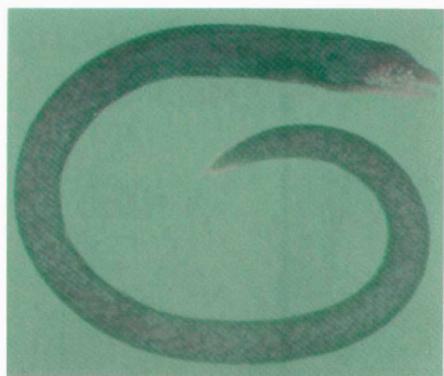
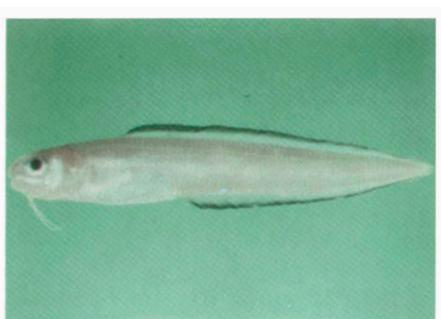
Winterbottom, R., 1984. A review of the gobiid fish genus *Trimma* from the Chagos Archipelago, central Indian Ocean, with the description of seven new species.— Can. J. Zool. 62: 695-715.

Winterbottom, R. & A.R. Emery, 1986. Review of the gobioid fishes of the Chagos Archipelago, Central Indian Ocean.— Roy. Ontario Mus., Life Sci. Contrib. (142): 1-82.

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Fig. 1. *Gymnothorax breedeni*.Fig. 2. *Gymnothorax melatremus*.Fig. 3. *Gymnothorax nudivomer*.Fig. 4. *Rhinomuraena quaesita*.Fig. 5. *Uropterygius macrocephalus*.Fig. 6. *Synodus binotatus*.Fig. 7. *Synodus jaculum*.Fig. 8. *Ophidion smithi*.

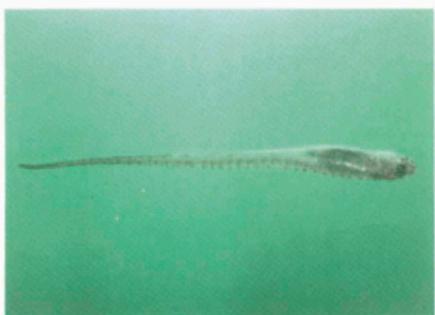


Fig. 9. *Carapus mourlani*.

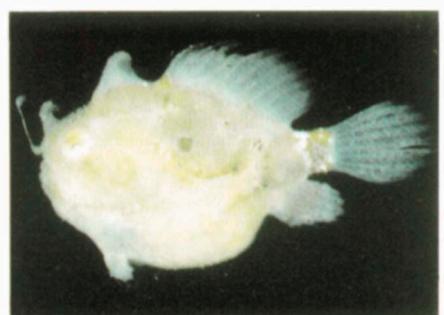


Fig. 10. *Antennarius hispidus*.



Fig. 11. *Myripristis berndti*.



Fig. 12. *Myripristis melanosticta*.

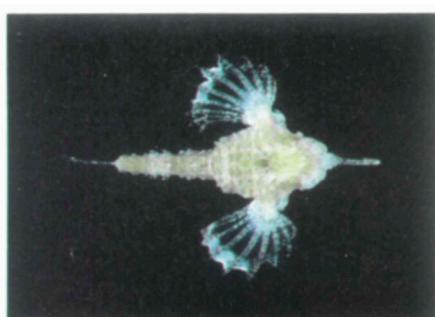


Fig. 13. *Euryptegnasus draconis*.



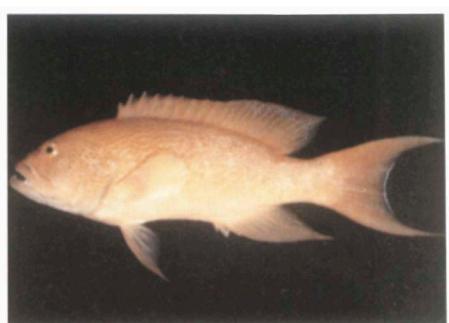
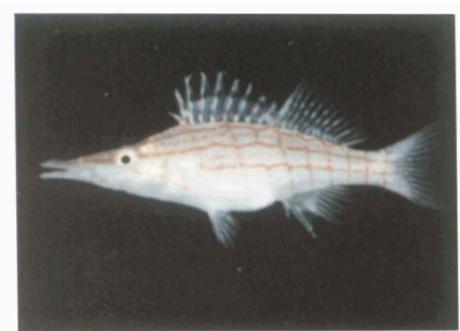
Fig. 14. *Cosmocampus banneri*.



Fig. 15. *Dunckerocampus dactyliophorus*.



Fig. 16. *Hippocampus histrix*.

Fig. 17. *Hippocampus whitei*.Fig. 18. *Inimicus filamentosus*.Fig. 19. *Cephalopholis sexmaculata*.Fig. 20. *Pseudanthias cooperi*.Fig. 21. *Variola albimarginata*.Fig. 22. *Oxycirrhitestypus*.Fig. 23. *Apogon punctatus*.

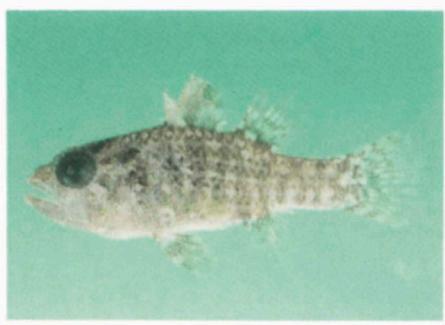


Fig. 24. *Fowleria abocellata*.

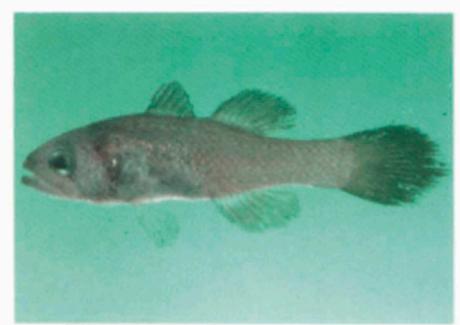


Fig. 25. *Pseudanania tarri*.

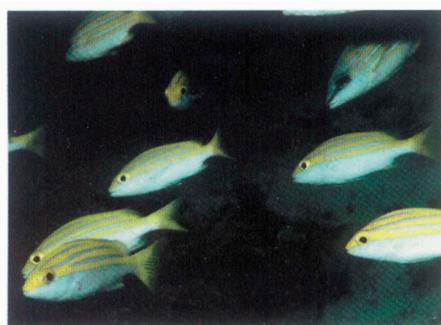


Fig. 26. *Lutjanus bengalensis*.



Fig. 27. *Pterocaesio marri*.

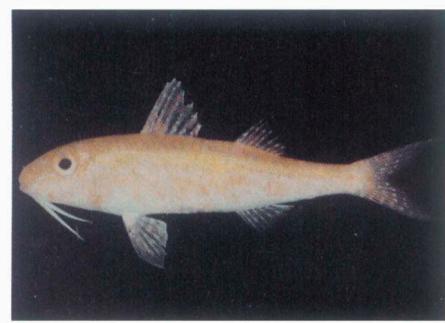


Fig. 28. *Parupeneus jansenii*.

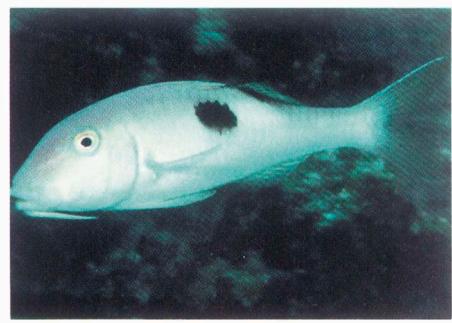


Fig. 29. *Parupeneus pleurostigma*.



Fig. 30. *Parapriacanthus ransonneti*.



Fig. 31. *Pempheris schwenkii*.

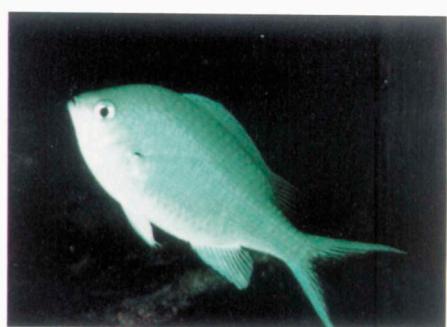
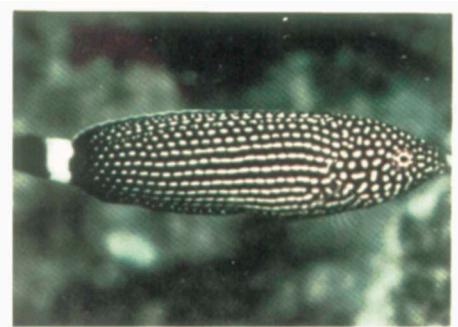
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Fig. 40. *Halichoeres cosmetus*.

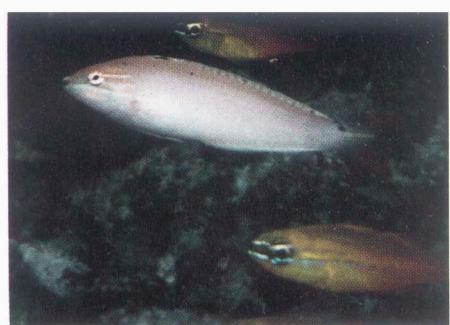


Fig. 41. *Halichoeres trispilus*.



Fig. 42. *Hologymnosus annulatus*.

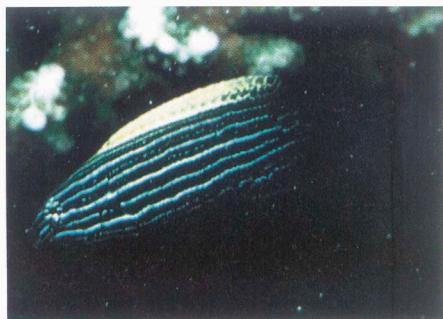


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Fig. 44. *Macropharyngodon bipartitus*.



Fig. 45. *Paracheilinus miccoskeri*.



Fig. 46. *Pseudojuloides argyreogaster*.



Fig. 47. *Pseudojuloides erythrops*.

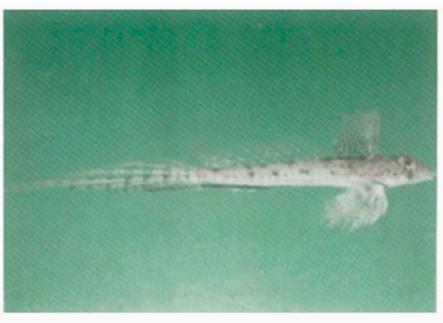
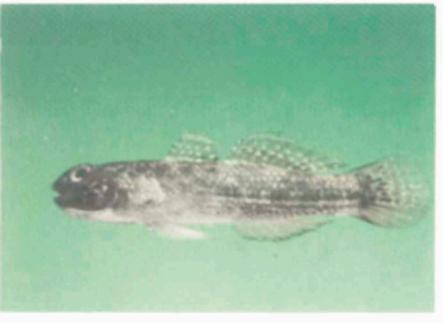
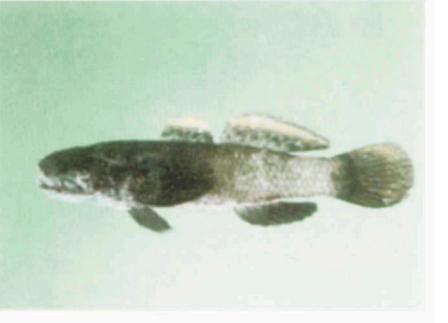
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Fig. 57. *Ctenogobiops maculosus*.



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Fig. 59. *Dactylelectris tentaculatus*.

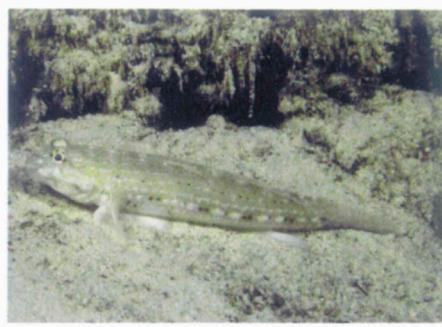


Fig. 60. *Istigobius decoratus*.

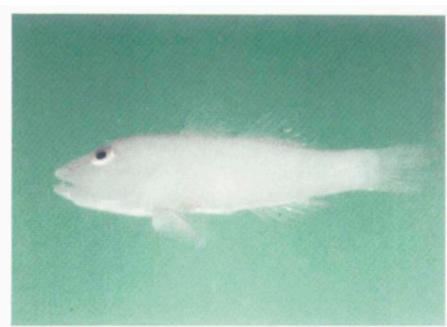


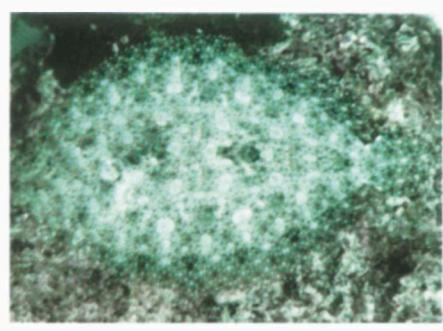
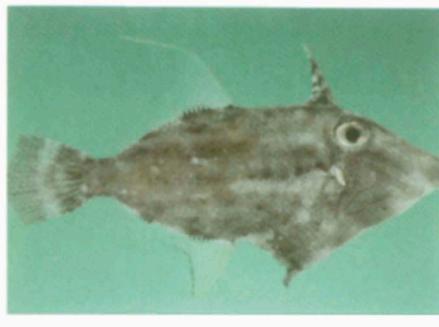
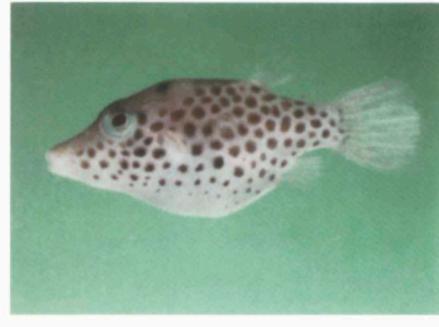
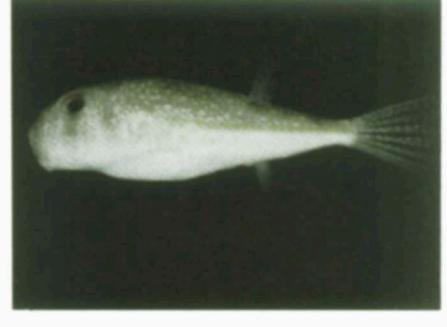
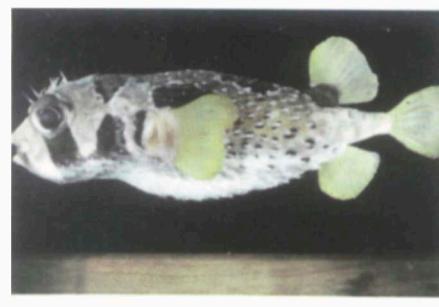
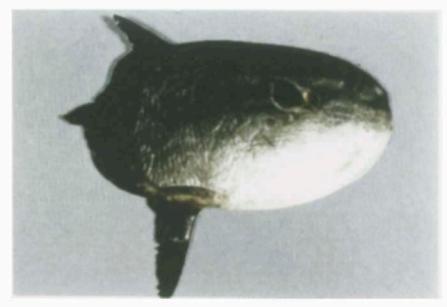
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Fig. 62. *Nemateleotris magnifica*.



Fig. 63. *Ctenochaetus binotatus*.

Fig. 64. *Bothus mancus*.Fig. 65. *Pseudobalistes fuscus*.Fig. 66. *Paramonacanthus nematophorus*.Fig. 67. *Canthigaster smithae*.Fig. 68. *Canthigaster tyleri*.Fig. 69. *Torquigener flavimaculosus*.Fig. 70. *Diodon liturosus*.Fig. 71. *Masturus lanceolatus*.

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